***STANDARD OPERATING PROCEDURE FOR MANAGEMENT OF DIABETIC RETINOPATHY***

***1. HISTORY:***

1.1 FOLLOWING POINTS PERTAINING TO THE HISTORY OF PRESENTING COMPLAINTS OF PATIENT WILL BE ASKED:

* Blurring of vision
* Sudden/progressive diminution of vision
* Floaters or flashes of light
* Diplopia
* Frequent change of glasses

1.2. FOLLOWING POINTS PERTAINING TO THE HISTORY OF ASSOCIATED SYMPTOMS WILL BE ASKED:

* Pain
* Numbness
* Dizziness/ loss of consciousness

1.3. FOLLOWING POINTS PERTAINING TO THE PAST HISTORY WILL BE ASKED:

* Diabetic history: duration of illness, whether blood sugar levels are controlled or not, compliance of patient, how often patient gets ocular examination.
* Other systemic diseases like hypertension, coronary vascular diseases, vascular occlusive disorders and renal disorders.
* In case of young female: whether pregnant or not.

1.4. FOLLOWING POINTS PERTAINING TO THE HISTORY OF TREATMENT WILL BE ASKED:

* Hypoglycemic drugs that patient is using ( particularly, glitazones)
* Any intravitreal injection
* Laser treatment of diabetic retinopathy

***2. EXAMINATION:***

***2.1 GENERAL PHYSICAL EXAMINATION***

* Pulse: rate, rhythm, volume and peripheral pulses
* Blood pressure
* Pallor/ Icterus/JVP/Cyanosis/Clubbing/Edema/Lymphadenopathy

***2.2 SYSTEMIC EXAMINATION***

For detailed physical examination, patient will be referred to physician.

***2.3 OCULAR EXAMINATION***

* Visual acuity ( best corrected)
* Visual axis
* Pupillary reactions and size
* SLIT LAMP EXAMINATION: it will be done to assess lid margins, conjunctiva, sclera, cornea, anterior chamber, pupils, iris, lens and anterior vitreous.
* Corneal sensations
* Intraocular pressure
* Fundus: It will be examined with 90-D and indirect ophthalmoscopy after full dilation of pupils.

***3. INVESTIGATIONS:***

***3.1. OCULAR INVESTIGATIONS:***

* B-Scan:

 It will be done in patients with hazy media that does not allow proper visualization of fundus.

* FFA:

 It will be done in selected cases, where further information is required.

* OCT:

 It will be done to assess and follow up thickness of different layers of retina and macular edema.

***3.2.SERUM INVESTIGATIONS:***

* Fasting/ post-prandial blood sugar
* HbA1c
* Hb
* Renal function tests: blood urea nitrogen, serum creatinine
* Lipid profile

***3.3 URINE INVESTIGATIONS:***

* Urine micro albumin levels
* Urine protein: 24 hour urine sample

***4. TREATMENT:***

***4.1. STAGES OF DIABETES RETINOPATHY:***

Staging of diabetic retinopathy will be done *according to ETDRS- Early Treatment of Diabetic Retinopathy Study*

***4.2. MEDICAL MANAGEMENT:***

* For NPDR: patient will be advised to have a strict control of blood sugar, blood pressure, lipid profile and correction of hemoglobin level (patient will be referred to physician for same).
* For PDR, CSME and Advanced eye disease: patient will be referred to higher center for vitreoretinal consultation and advised to have a strict control of blood sugar, blood pressure, lipid profile and correction of hemoglobin level (patient will be referred to physician for same).
* If some renal disease is found in patient, he or she will be referred to nephrologist.

***4.3. FOLLOW\_UP:***

* Mild NPDR: annually
* Moderate NPDR: 6 monthly
* Severe NPDR: 4 monthly
* Very severe NPDR: 3-4 monthly
* PDR/ CSME/ ADVANCED EYE DISEASE: immediate treatment advised.